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UNI-T

UT2000_3000 Series Digital Storage Oscilloscopes
User Manual and Installation Notes

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UT2000_3000 Series Digital Storage Oscilloscopes Introduction

The UT2000_3000 Series Digital Storage Oscilloscope software is written for UT2000_3000 Series digital storage oscilloscopes. With this software you can carry out communication between a computer and an oscilloscope through serial or USB, and in turn perform remote control. This software also provides testing, waveform and sampling data reading functions to facilitate further signal testing and analysis.

Equipment Requirement	Minimum
Oscilloscope	UT2000_3000 Series
PC	IBM-compatible PC, Windows 2000/XP OS, 16MB RAM, 4X optical drive or better SVGA display or better
RS-232 Power Cord	The connection terminals of the oscilloscope and PC must match
USB Lead	

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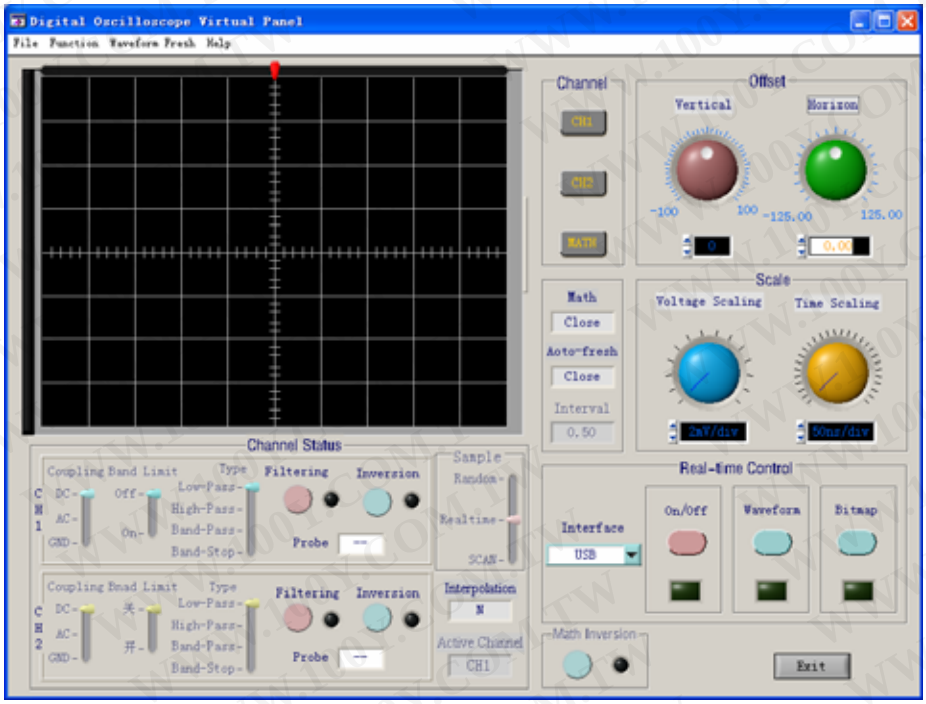
Chapter One: Software Structure Basics

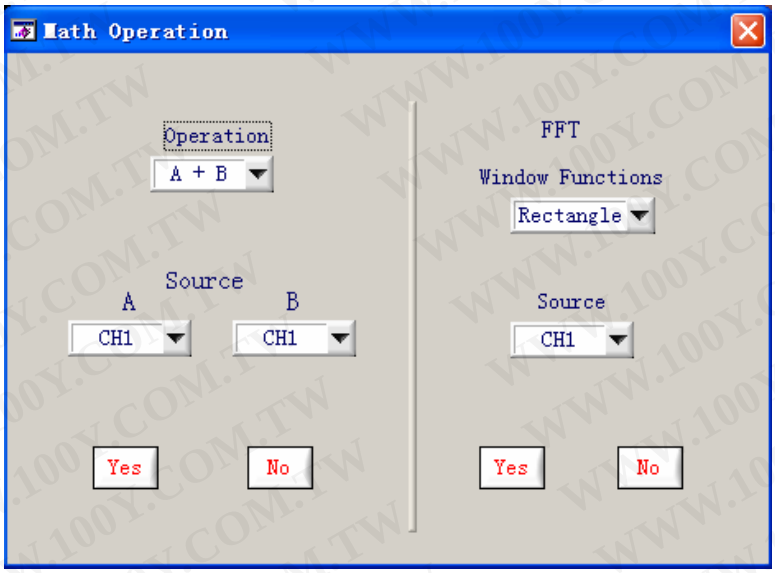
Notes on operation interface



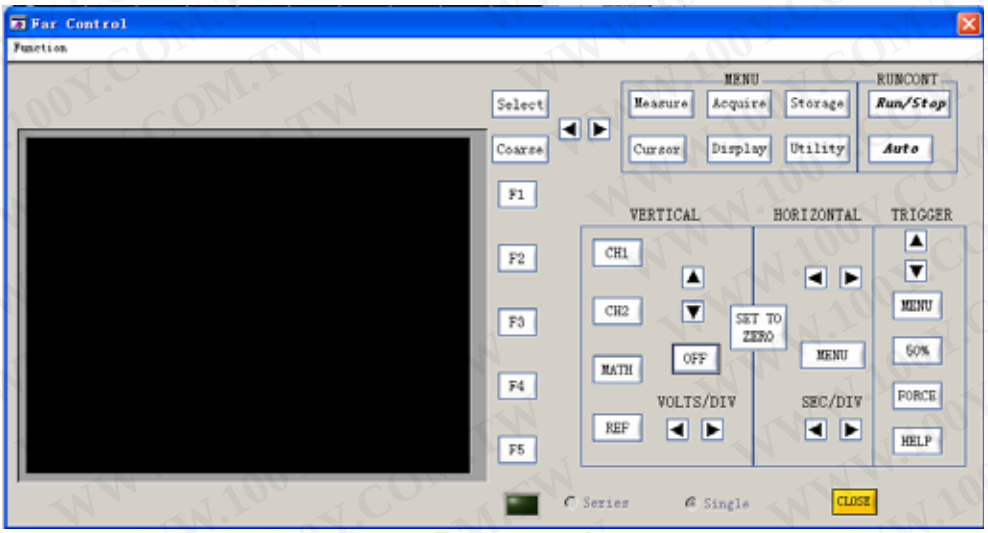
Notes on menu:

1. Document: Load waveform, save waveform, load intersection, print preview, print preview, print, exit.

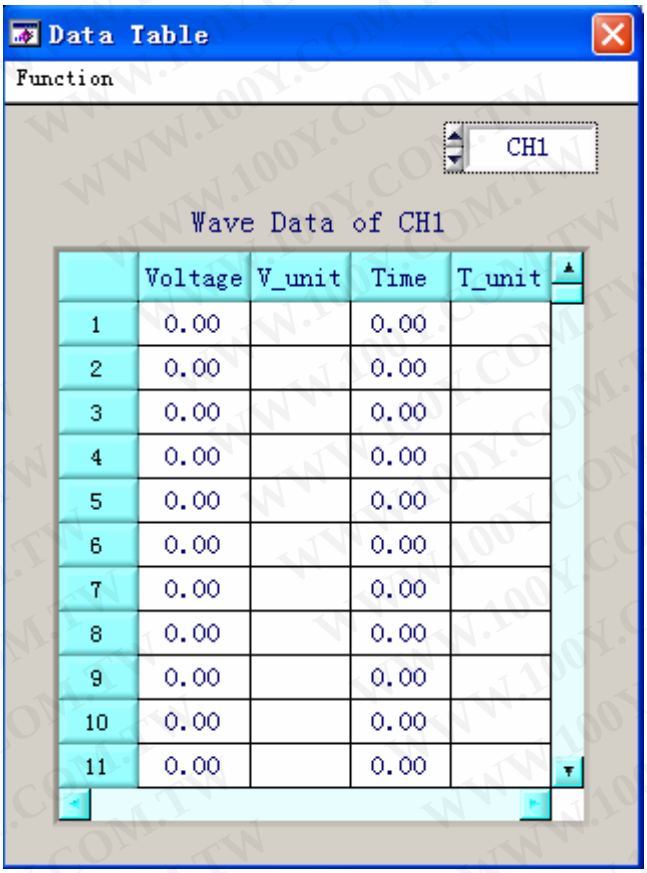
2. Function:
   Mathematics function: User can select the calculation method of the channels or window function.



Remote control: Control of the serial interface can be performed from a remote point.



Data form: How the voltage changes with time



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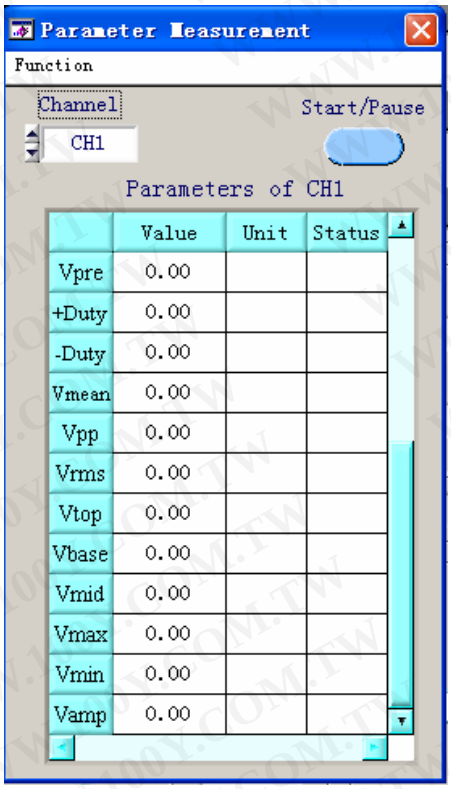
Parameter testing: The current parameters are displayed



3. Refresh waveform: single refresh; waveform time interval setup

4. Help: Content; About

Notes on front panel

Channel status: Current status of the oscilloscope is displayed. When transmitting data, this status bar displays the current status. When the oscilloscope's status changes, so will this status bar, but you cannot use this bar to control the current status of the oscilloscope.

1. CH1: Coupling method (DC, AC, GND); Bandwidth suppression (On Off); Filter type (low-pass, high-pass, band-pass, band-stop); Digital filter (when the indicator lights up the function is ON, when the indicator lights off the function is OFF); Reverse (when the indicator lights up the function is ON, when the indicator lights off the function is OFF); Probe (1X, 10X, 100X, 1000X).

2. CH2: Coupling method (DC, AC, GND); Bandwidth suppression (On Off); Filter type (low-pass, high-pass, band-pass, band-stop); Digital filter (when the indicator lights up the function is ON, when the indicator lights off the function is OFF); Reverse (when the indicator lights up the function is ON, when the indicator lights off the function is OFF); Probe (1X, 10X, 100X, 1000X).

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3. Sampling method; Random; Real-time; SCAN
4. Interpolation (Yes, NO)
5. Current activated channel (MATH; CH1; CH2)

Channel selection: CH1; CH2; MATH

Deviation factor adjustment: Vertical; Horizontal

Range adjustment: Voltage range; Time base range

Real-time Control: Equipment selection (Serial, USB); ON/OFF (when the indicator lights up the function is ON, when the indicator lights off the function is OFF); Data transmission (when the indicator lights up the function is ON, when the indicator lights off the function is OFF); Transmission screen (when the indicator lights up the function is ON, when the indicator lights off the function is OFF).

Reverse Mathematic function: Indicator on means reverse mathematic function is in process. Indicator off means reverse mathematic function is not in process.

Mathematic function: Select with the MATH option in the function menu in the menu bar.

Auto Refresh: Set up the refresh time interval with the waveform refresh menu in the menu bar.

Refresh time: Set up refresh time while performing auto refresh.

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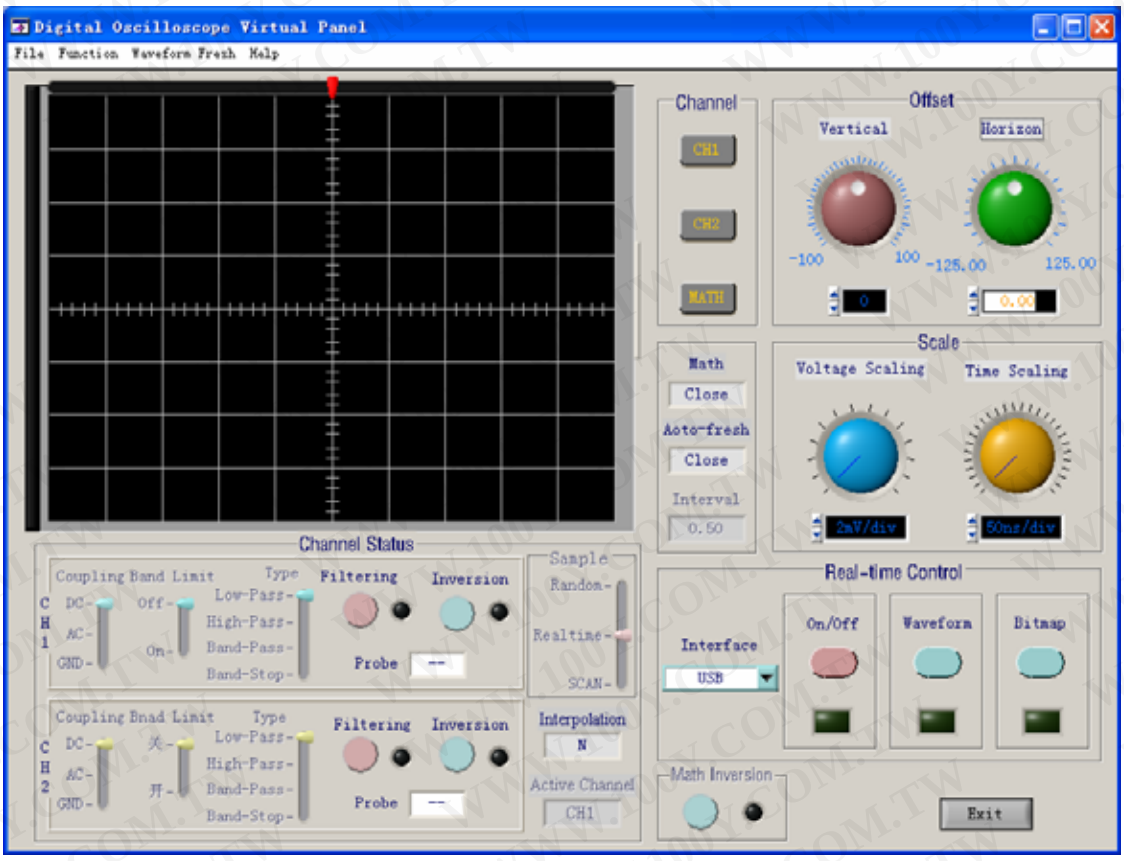
Chapter Two: Operation Guide

After reading Chapter One you may now have a basic understanding of how this system works. The following are more specific instructions for using the software.

We recommend you to read this chapter carefully to familiarize with application.

Connect the RS-232 power cord or USB lead. Turn on the oscilloscope and activate the UT2000_3000 Series Digital Storage Oscilloscope software. Enter the following screen:



USB Interface Controls

If controlling the oscilloscope via the USB interface, follow the steps below:

1. With the equipment selection knob on the real-time control panel, select USB.

2. Click the [Equipment ON/OFF] knob to turn it on. When the indicator lights up the function is ON. When the indicator lights off the function is OFF.

3. Click the [Data Transmission] knob to turn it on. When the indicator lights up the function is ON. When the indicator lights off the function is OFF.

4. Click the [Data Transmission] knob to turn it off. When the indicator lights up the function is ON. When the indicator lights off the function is OFF.

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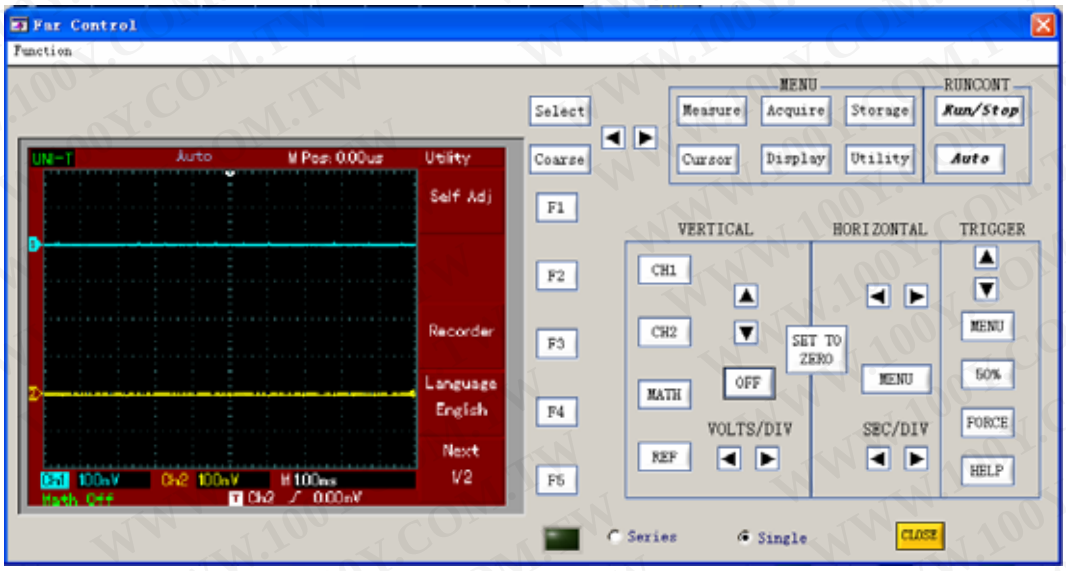
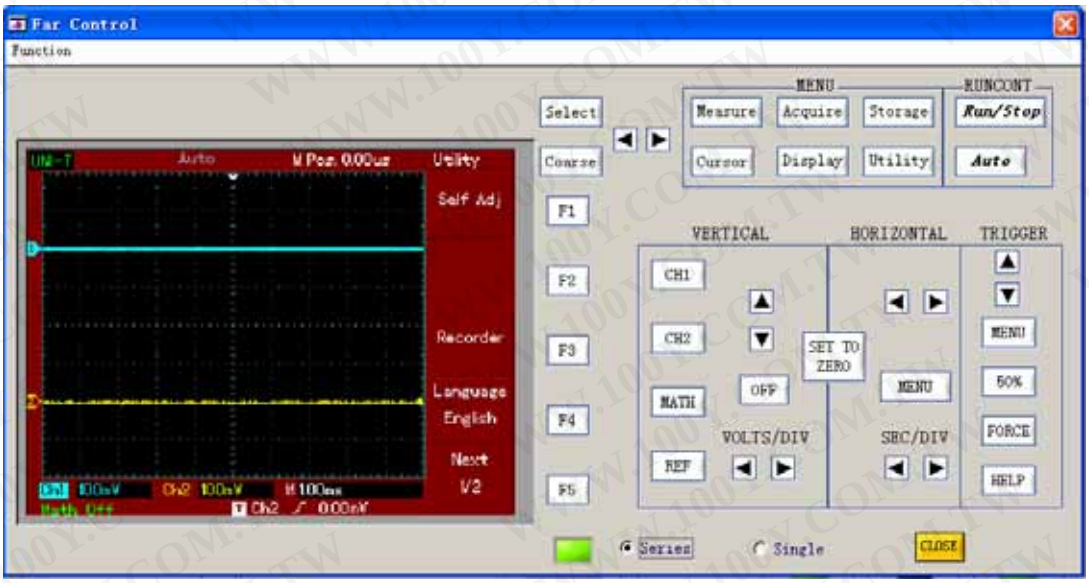
5. Click the [Data Interface] knob to pop up the following screen.



6. Click Series on the above screen so the oscilloscope can transmit continuously as indicated below. You can now control the oscilloscope.



7. When operation is complete press [CLOSE] to close this screen.

Note: When starting step 5 after completing step 4, you can select [Function] and then [Remote Control] in the menu bar instead of clicking [Data Interface]. The following screen will pop up to allow control of the oscilloscope but no waveform is displayed. This operation is similar to “Serial Interface Controls” explained below.

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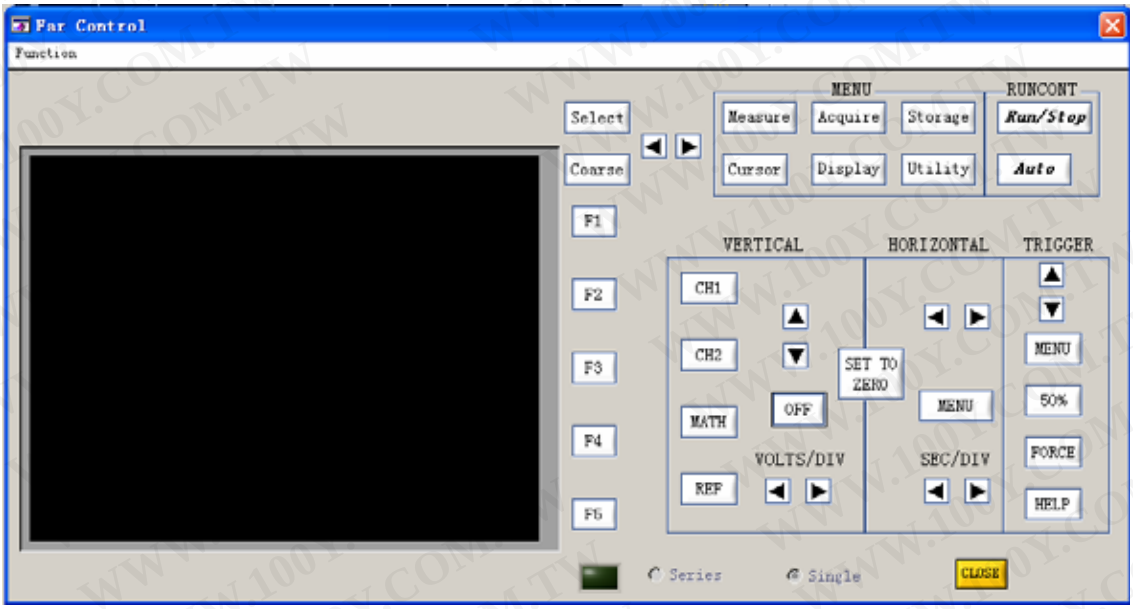
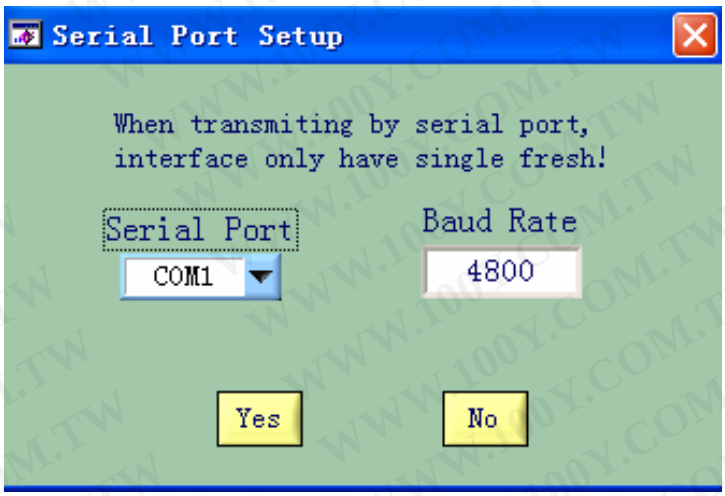


Serial Interface Controls

Follow the following steps:

1. Select Serial with the equipment selection knob of the real-time control panel. The following screen appears:



   Press OK.

2. Click the [Equipment ON/OFF] knob to turn it on. When the indicator lights up the function is ON. When the indicator lights off the function is OFF.

3. Click the [Data Transmission] knob to turn it on. When the indicator lights up the function is ON. When the indicator lights off the function is OFF.

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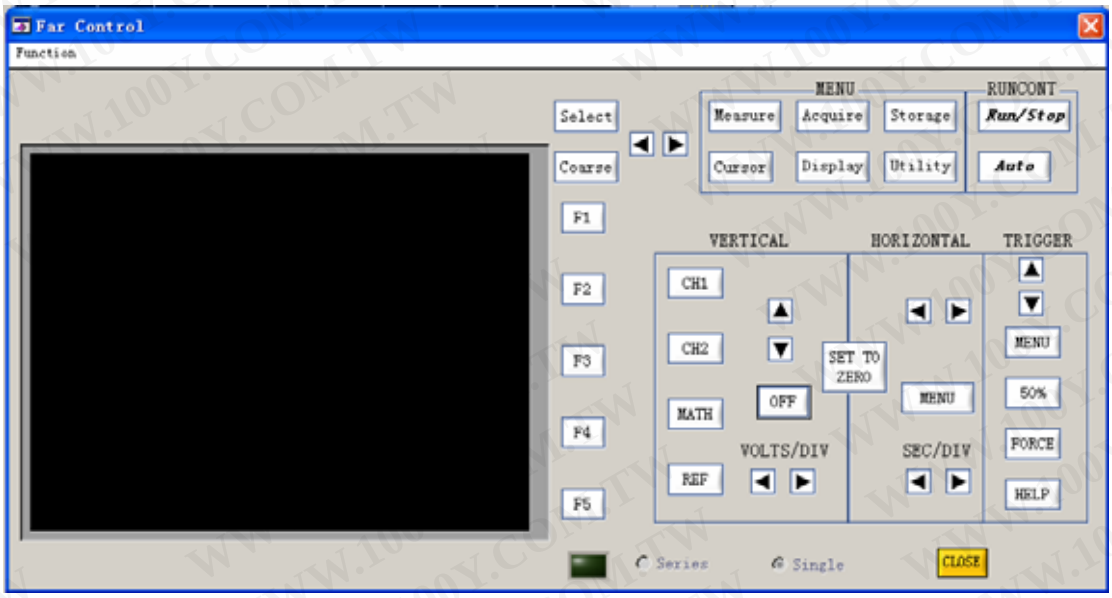
Note: This process may take several seconds.

4. Click the [Function] knob on the menu bar than select remote control. The following screen will appear. You can now control the oscilloscope.



Important: The above screen will not display waveform. Operation of this screen will be indicated in the oscilloscope.

5. At the end of operation press [CLOSE] to close this screen. To switch to USB connection follows the steps for USB connection stated above. When you have finished all operations, press [CLOSE] to switch off the UT2000_3000 Series Digital Storage Oscilloscope software, then power off the oscilloscope and disconnect the USB lead and RS-232 power cord.

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Chapter Three: Installation guide for UT2000_3000 Series Computer Testing & Control Software

1. Hardware

There are one USB device communication port and one RS-232 communication port for computer connection on the rear panel of the UT2000_3000 Series digital storage oscilloscope. By connecting a host (computer or control computer) to any one of the two ports, you can control the oscilloscope with the host from a remote location.

2. Installing the driver

Take the USB A-B lead. Connect one end to the USB terminal of the host, and the other end to the USB Device terminal on the rear panel of the oscilloscope. Power on the oscilloscope and turn on the oscilloscope's power. "Found New Hardware" will appear at the right bottom corner of the operating screen of the host, as shown below:

You will also see an icon prompt that says "Found New hardware – UT2000/3000 Series Digital Storage Oscilloscope".

A "Found New hardware" dialogue box will pop up in a little while, as shown below:

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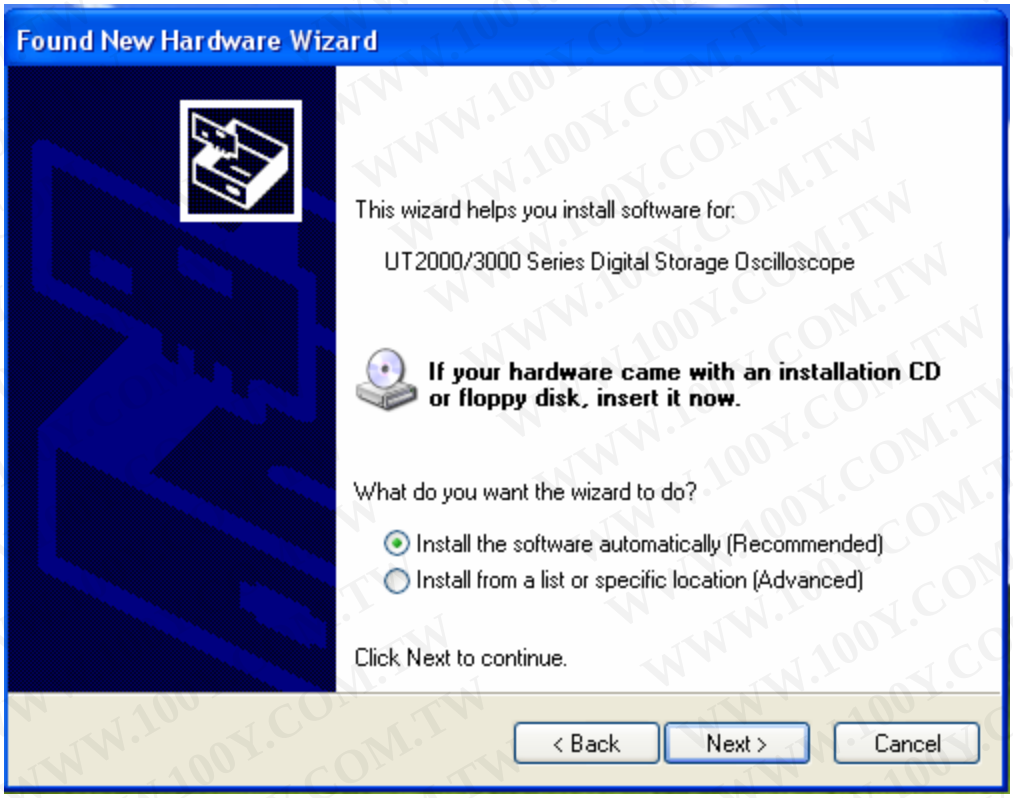
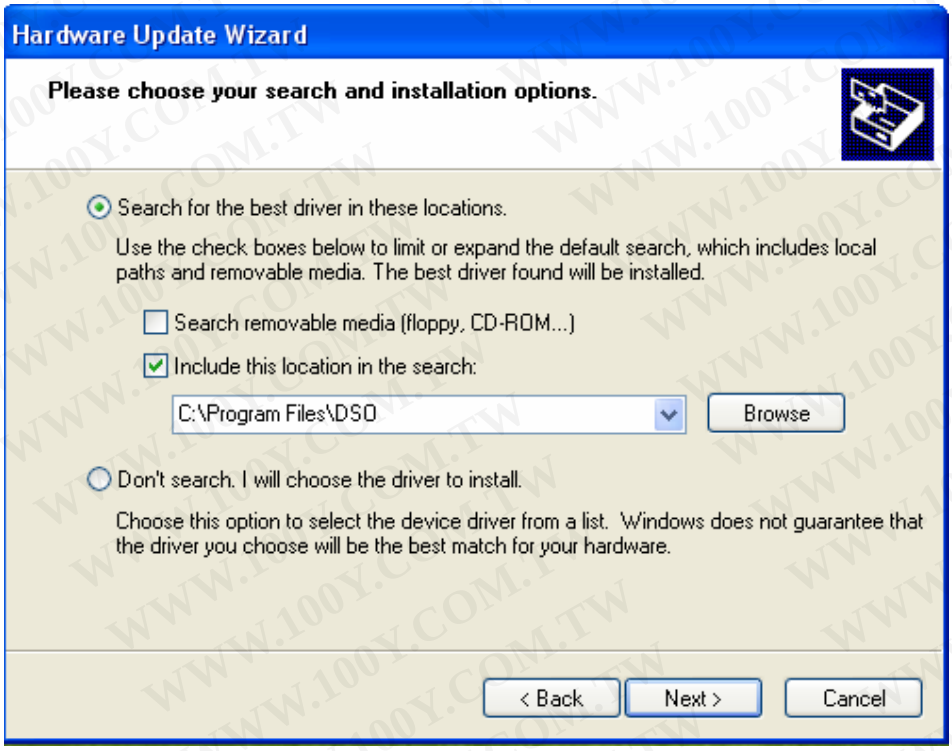
Found New Hardware Wizard
Welcome to the Found New Hardware Wizard
Windows will search for current and updated software by looking on your computer, on the hardware installation CD, or on the Windows Update Web site (with your permission).
Read our privacy policy
Can Windows connect to Windows Update to search for software?
Yes, this time only
Yes, now and every time I connect a device
No, not this time
Click Next to continue.
< Back
Next >
Cancel

Set up as follows:

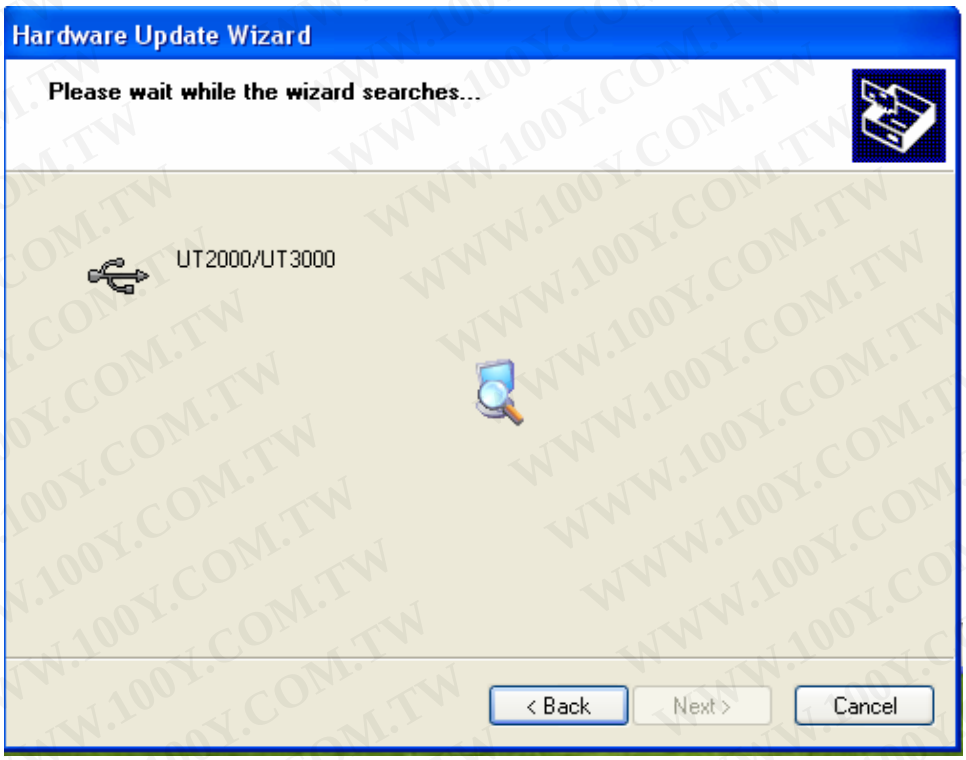
Step 1: Select [Yes, this time only] and click [Next] once.
Step 2: In the "Found New hardware Wizard" wizard select [Install from a list or specific location (Advanced)], then click [Next].


Found New Hardware Wizard
This wizard helps you install software for:
UT2000/3000 Series Digital Storage Oscilloscope
If your hardware came with an installation CD or floppy disk, insert it now.
What do you want the wizard to do?
Install the software automatically (Recommended)
Install from a list or specific location (Advanced)
Click Next to continue.
< Back
Next >
Cancel

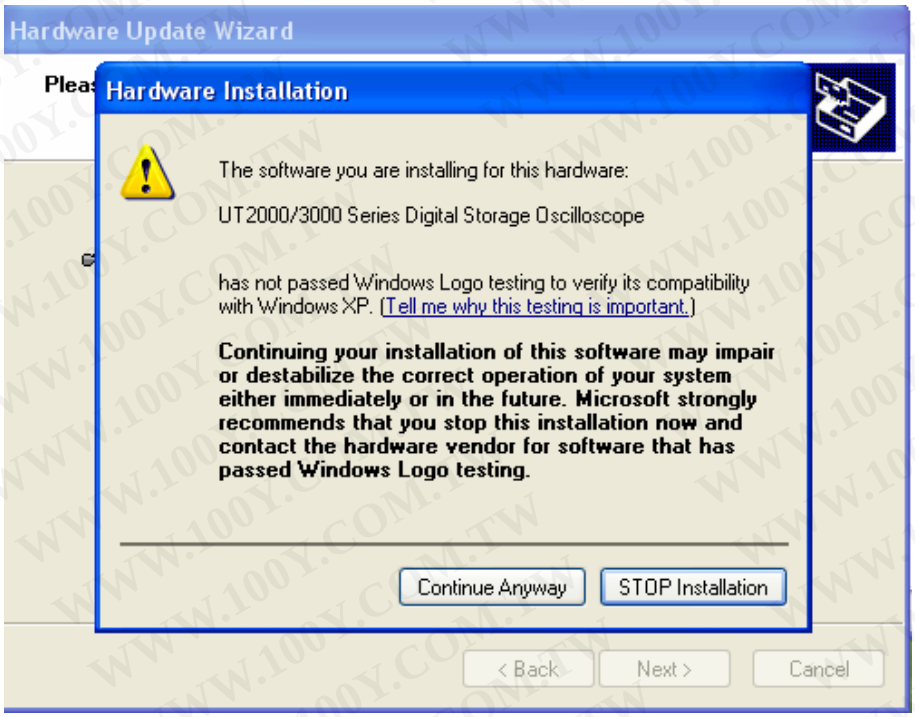
The following screen will appear. Select [Browse]. In the popped up [Browse Folder] box, select the DSO directory in the directory where you intend to install UT2000_3000, then click [Next]. (As shown below).


Hardware Update Wizard
Please choose your search and installation options.
Search for the best driver in these locations.
Use the check boxes below to limit or expand the default search, which includes local paths and removable media. The best driver found will be installed.
Search removable media (floppy, CD-ROM...)
Include this location in the search:
C:\Program Files\DSO
Browse
Don't search. I will choose the driver to install.
Choose this option to select the device driver from a list. Windows does not guarantee that the driver you choose will be the best match for your hardware.
< Back
Next >
Cancel

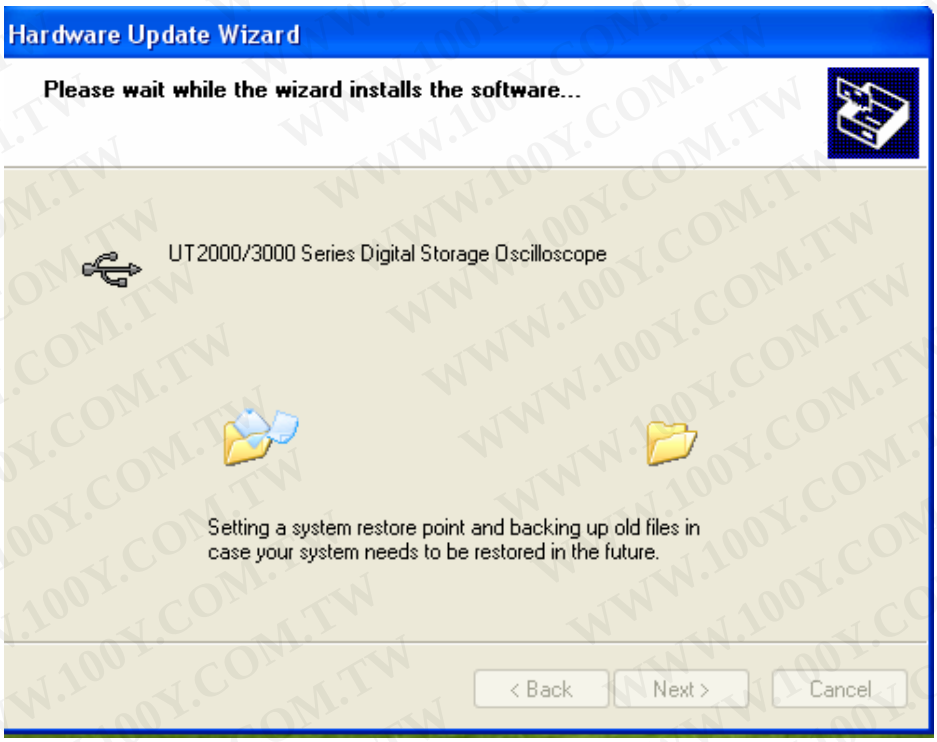
Step 3: Enter the search-in-progress waiting screen.



The dialogue box below will appear but it will not affect the software or your computer. Click [Continue Anyway].


Hardware Update Wizard
Hardware Installation
The software you are installing for this hardware:
UT2000/3000 Series Digital Storage Oscilloscope
has not passed Windows Logo testing to verify its compatibility with Windows XP. (Tell me why this testing is important.)
Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the hardware vendor for software that has passed Windows Logo testing.
Continue Anyway
STOP Installation
< Back
Next >
Cancel

The system will automatically jump to the [System Restore Setup] screen and the document is copied.


Hardware Update Wizard
Please wait while the wizard installs the software...
UT2000/3000 Series Digital Storage Oscilloscope
Setting a system restore point and backing up old files in case your system needs to be restored in the future.
< Back
Next >
Cancel

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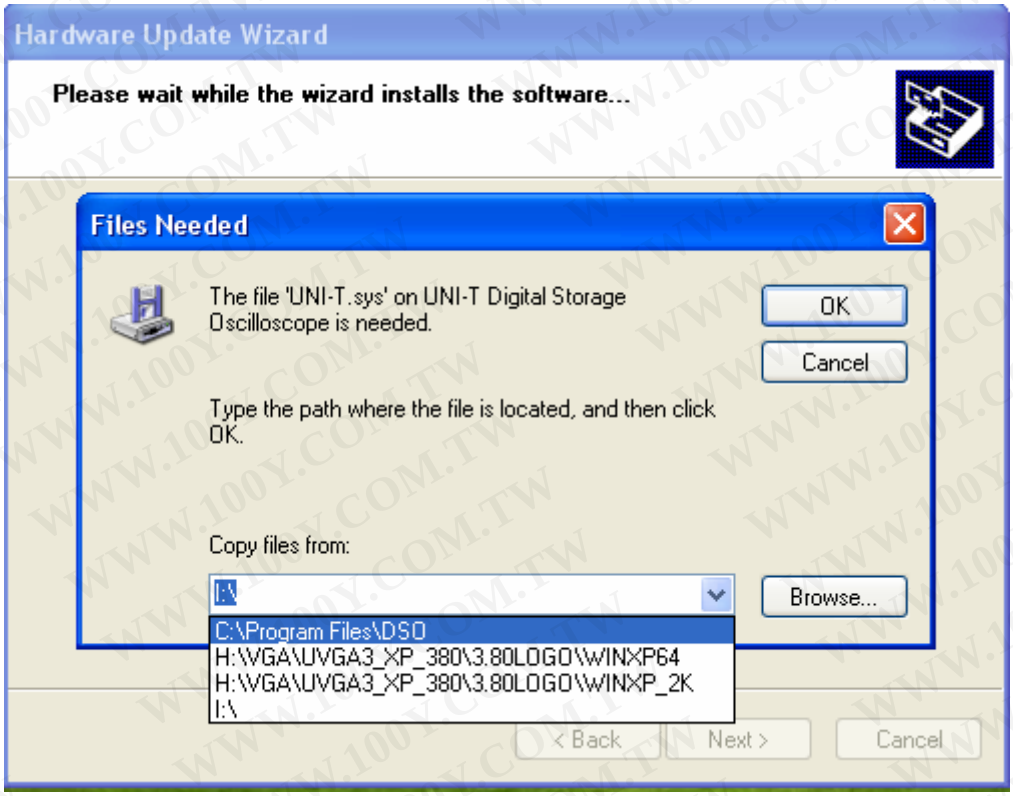
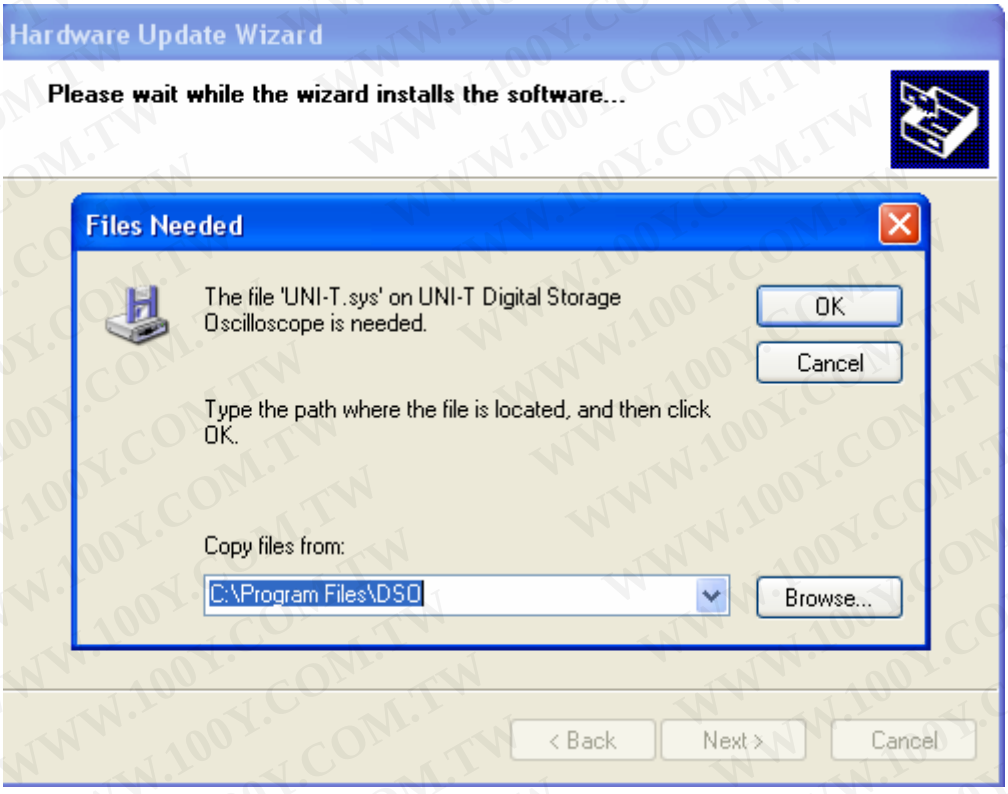
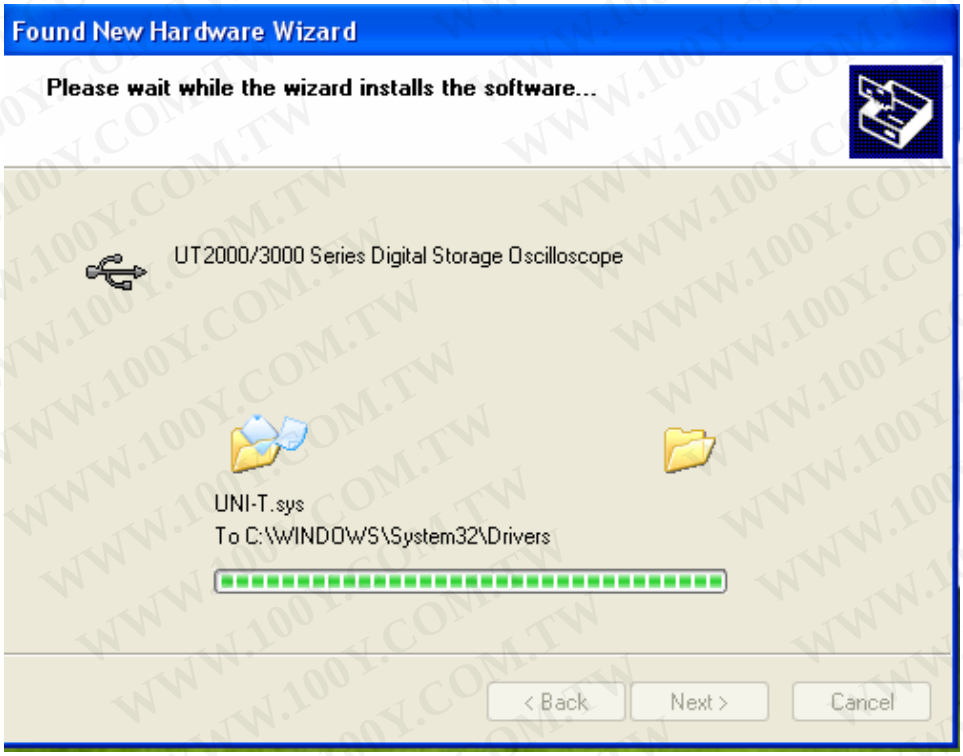
The following screen will appear while the document is being copied.



Click the left arrow of [Browse…] to select the directory you have defined in Step 2. If you have not defined any, find one in [Browse…].


Hardware Update Wizard
Please wait while the wizard installs the software...
Files Needed
The file 'UNI-T.sys' on UNI-T Digital Storage Oscilloscope is needed.
OK
Cancel
Type the path where the file is located, and then click OK.
Copy files from:
C:\Program Files\DSO
Browse...
< Back
Next >
Cancel

Click [OK] again to confirm. Document copy will continue.

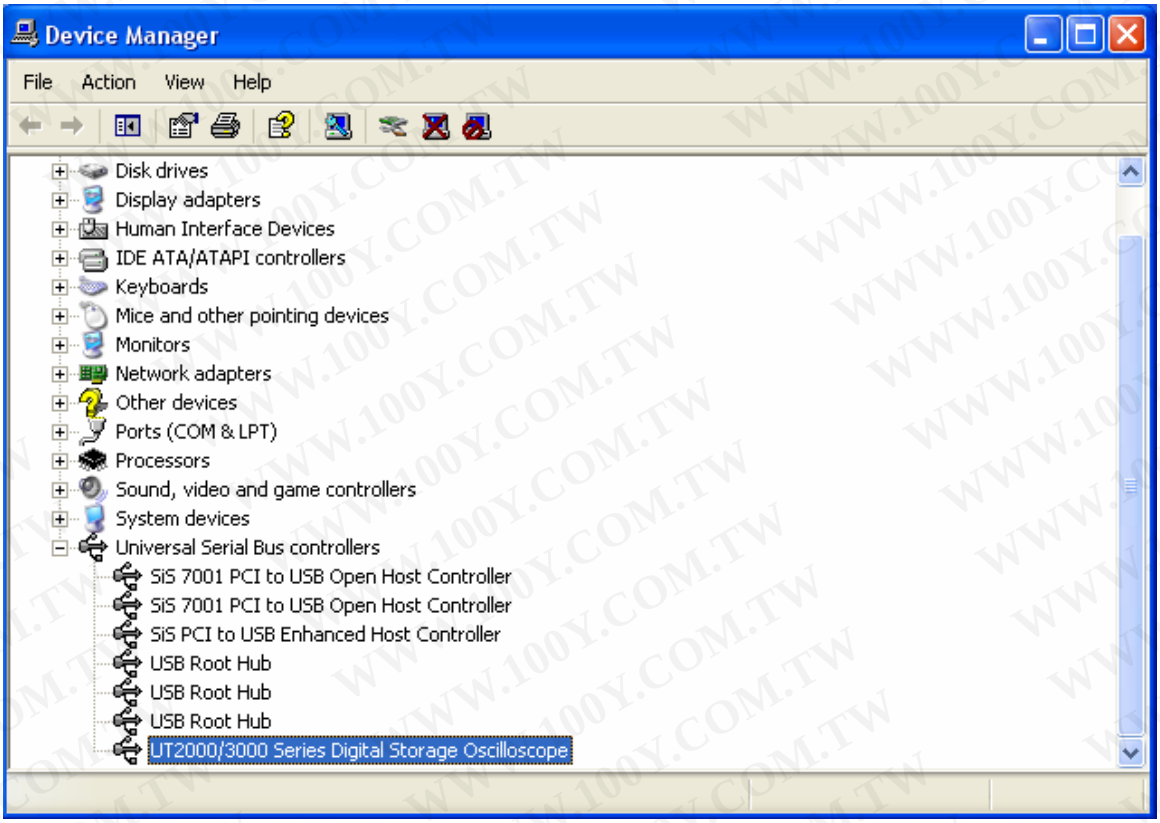


Click [Finish] to complete installation of the driver.

Found New Hardware Wizard
Completing the Found New Hardware Wizard
The wizard has finished installing the software for:
UT2000/3000 Series Digital Storage Oscilloscope
Click Finish to close the wizard.
< Back
Finish
Cancel

At the right bottom corner of the screen, you will see:

Display of the [Device Manager] is as follows:



Note: If no [Found New Hardware] wizard pops up on your computer screen when the computer is properly connected to the oscilloscope and the latter is powered on normally, right click [My Computer] and select [Attribute]. In the [System Attribute] dialogue box select the [Hardware] box. Click the [Device Manager] button.

In the pop up [Device Manager] dialogue box, you can see a yellow UT2000/3000 icon that indicates incomplete installation.

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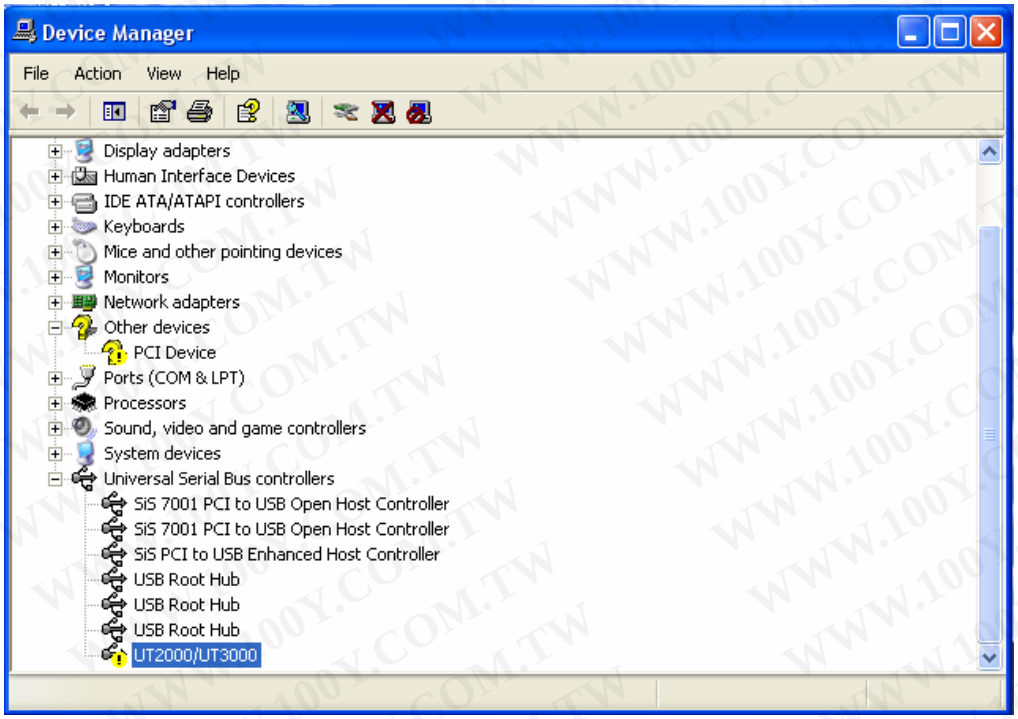
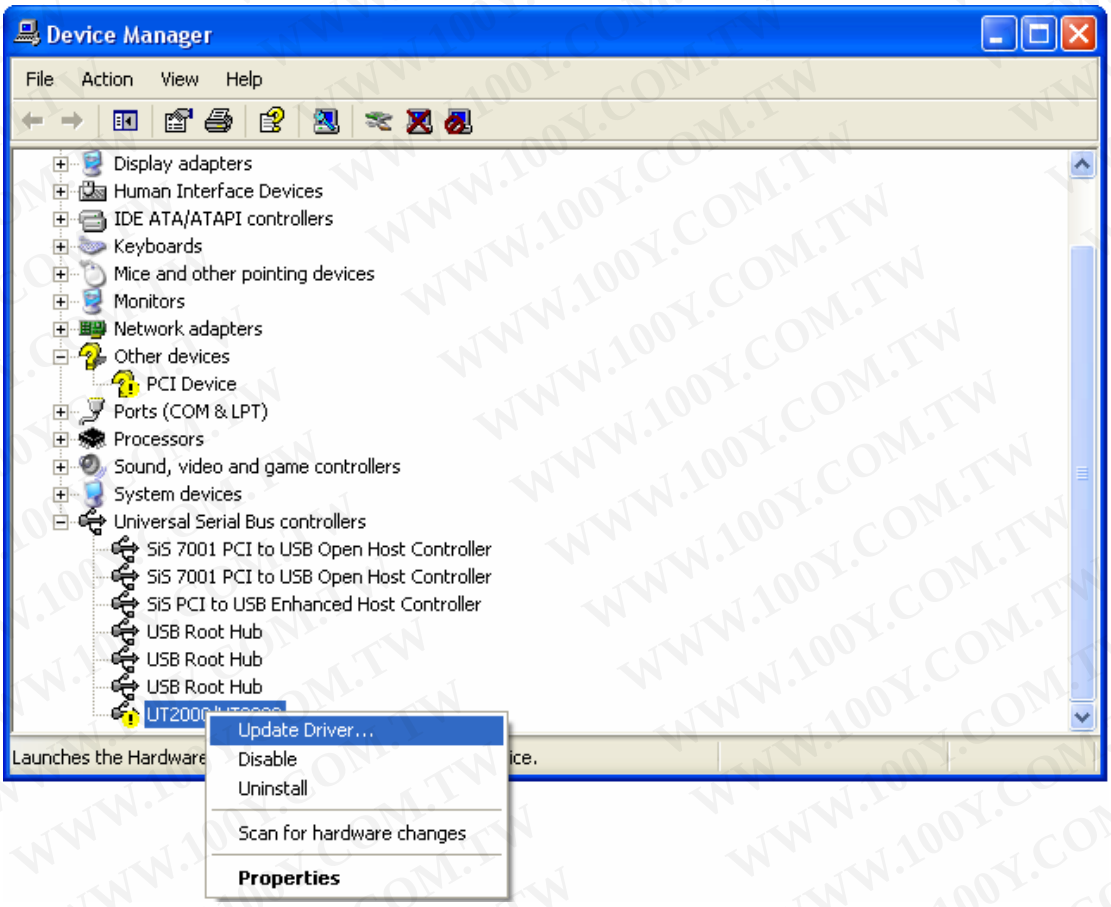


Right click your mouse and select [Update Driver Application] to pop up the [Found New Hardware] wizard. Follow step 1 to install the driver.



3. Installing the software

You can install from the installation CD-Rom supplied with the oscilloscope or download the computer software directly from the UNI-T website.

Step 1: Find the suitable operating system “UT2000_3000 VI (For WinXP) or UT2000_3000 VI (For Win2000)” folder in the supplied CD-Rom or unzipped path. As directed by the operating system installation software, double click the Setup icon as shown below:

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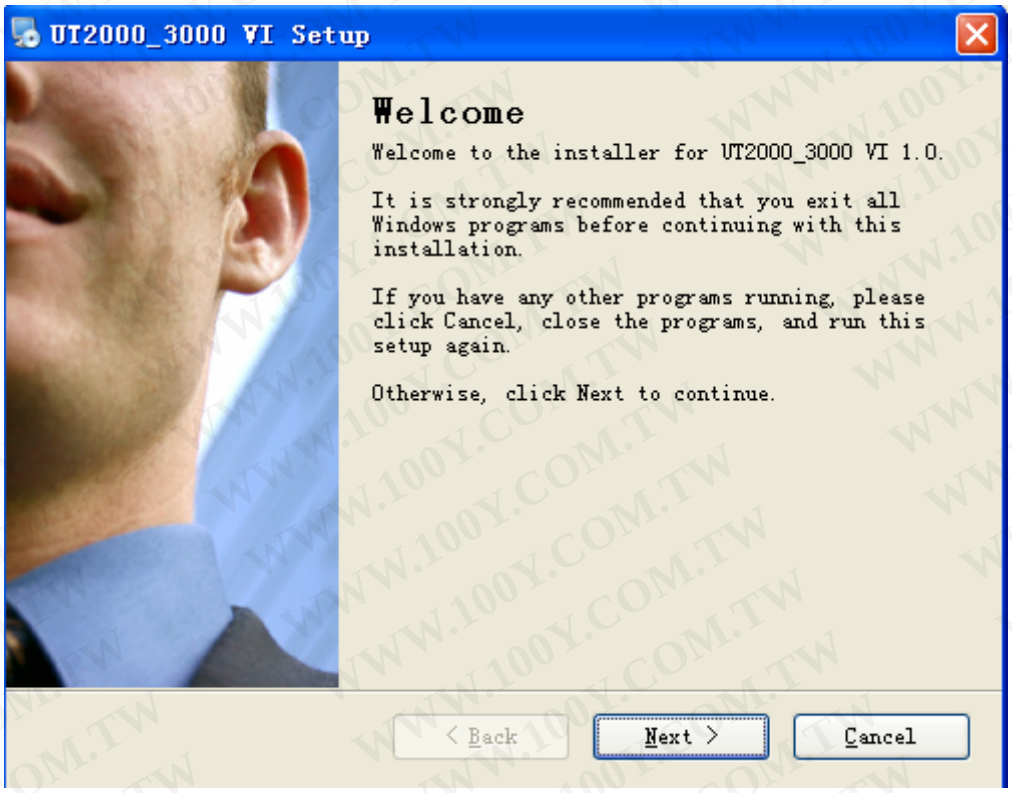
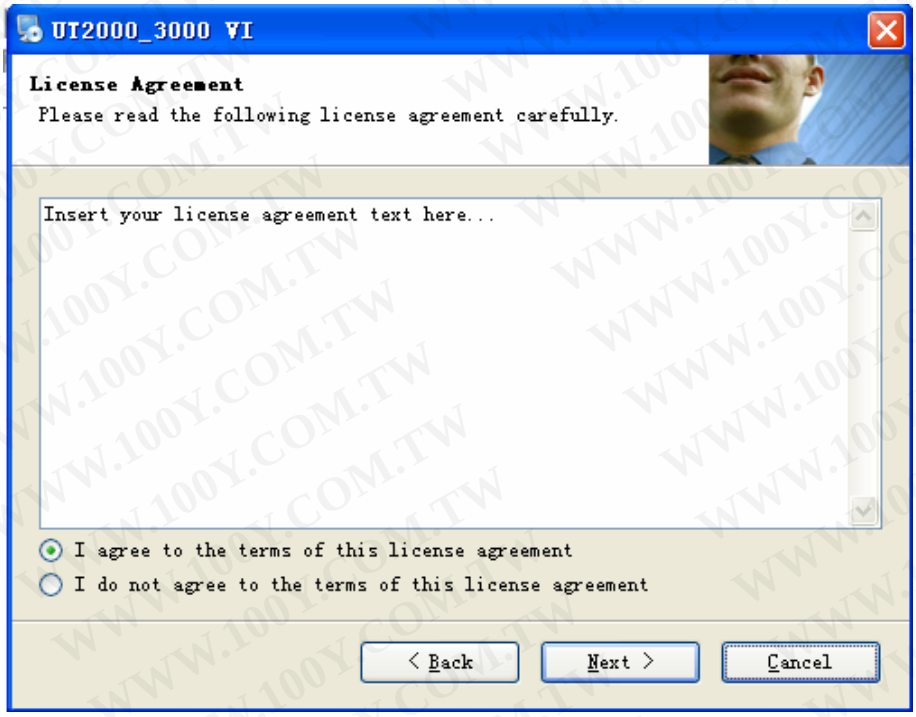
Note:

1. The Ultra scope for UT2000_3000 Computer Testing & Control Software installation kit downloaded online must first be unzipped.
2. This software supports Windows 2000 and Windows XP.

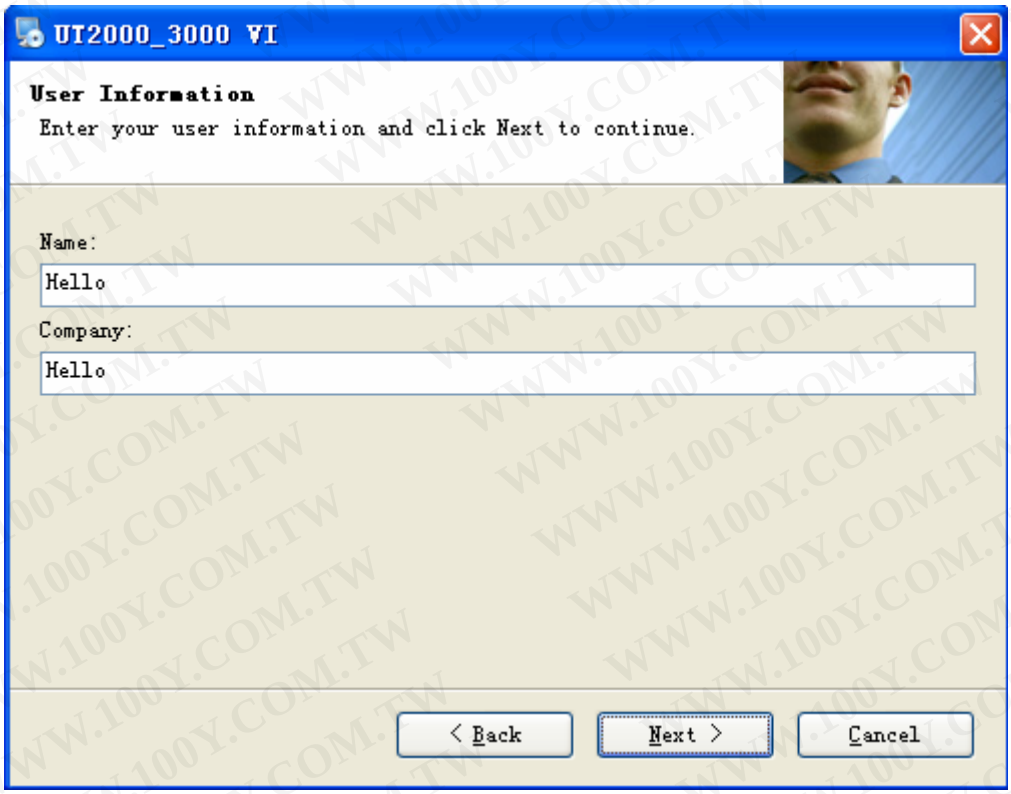
Step 2: Begin installation. The software installation wizard pops up as shown below :


UT2000_3000 VI Setup
Welcome
Welcome to the installer for UT2000_3000 VI 1.0.
It is strongly recommended that you exit all Windows programs before continuing with this installation.
If you have any other programs running, please click Cancel, close the programs, and run this setup again.
Otherwise, click Next to continue.
< Back
Next >
Cancel

Step 3: Confirm that you wish to install this software. Click the [Next] button.


UT2000_3000 VI
License Agreement
Please read the following license agreement carefully.
Insert your license agreement text here...
I agree to the terms of this license agreement
I do not agree to the terms of this license agreement
< Back
Next >
Cancel

Step 4: Read the installation licensing agreement carefully. Select “I agree with the terms and conditions of the licensing agreement”, then click [Next].



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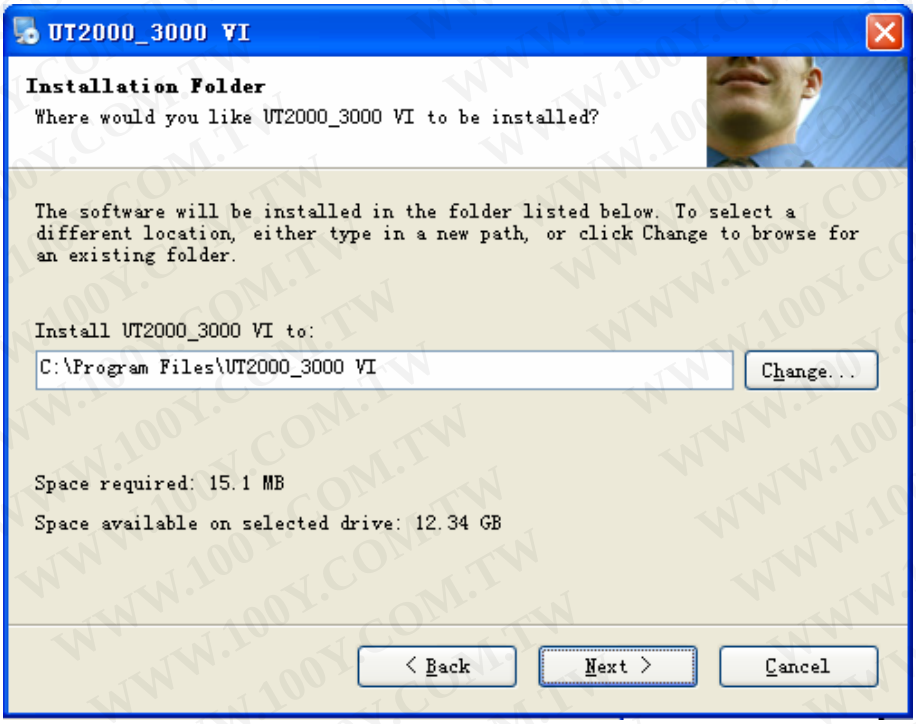
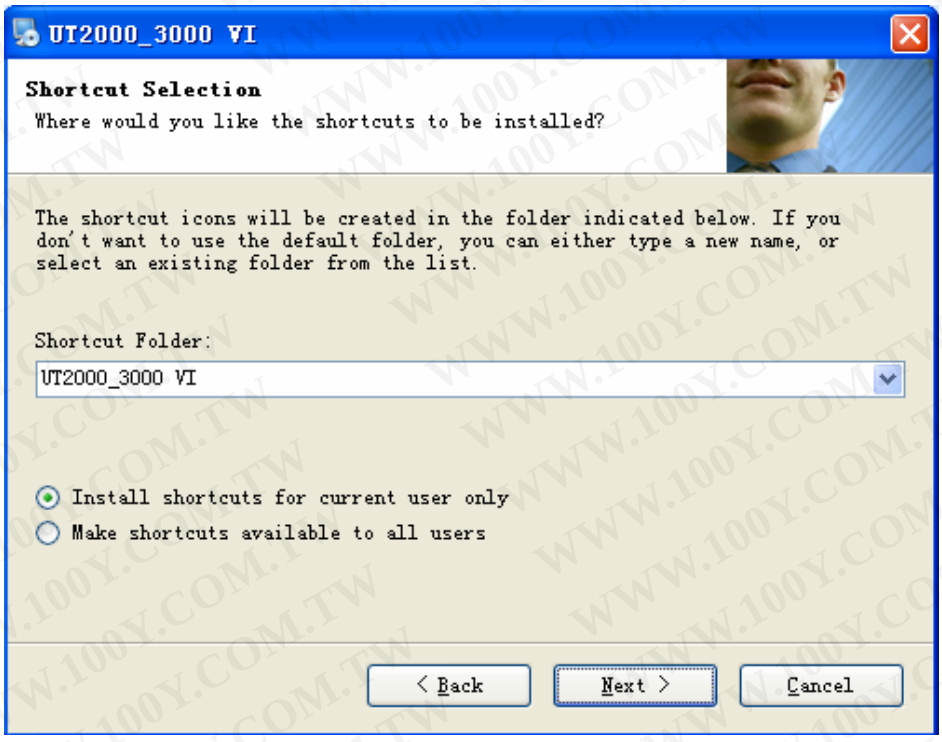
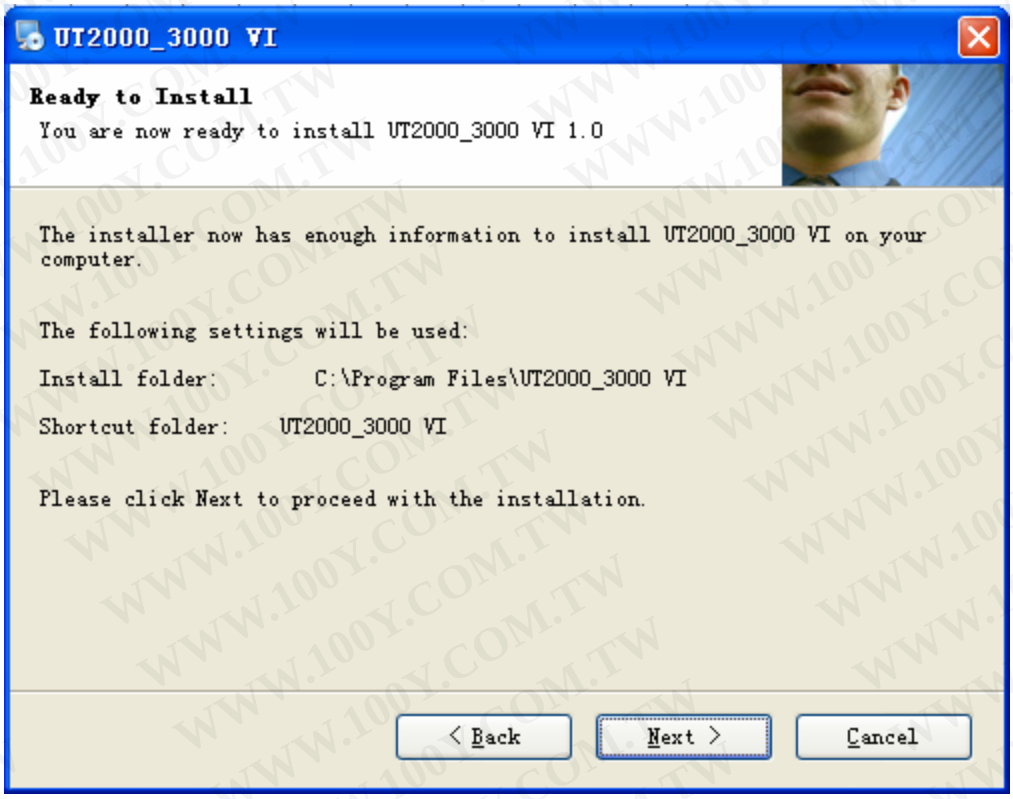
Step 5: Enter your user name and company name, then click [Next] once.


UT2000_3000 VI
Installation Folder
Where would you like UT2000_3000 VI to be installed?
The software will be installed in the folder listed below. To select a different location, either type in a new path, or click Change to browse for an existing folder.
Install UT2000_3000 VI to:
C:\Program Files\UT2000_3000 VI
Change...
Space required: 15.1 MB
Space available on selected drive: 12.34 GB
< Back
Next >
Cancel

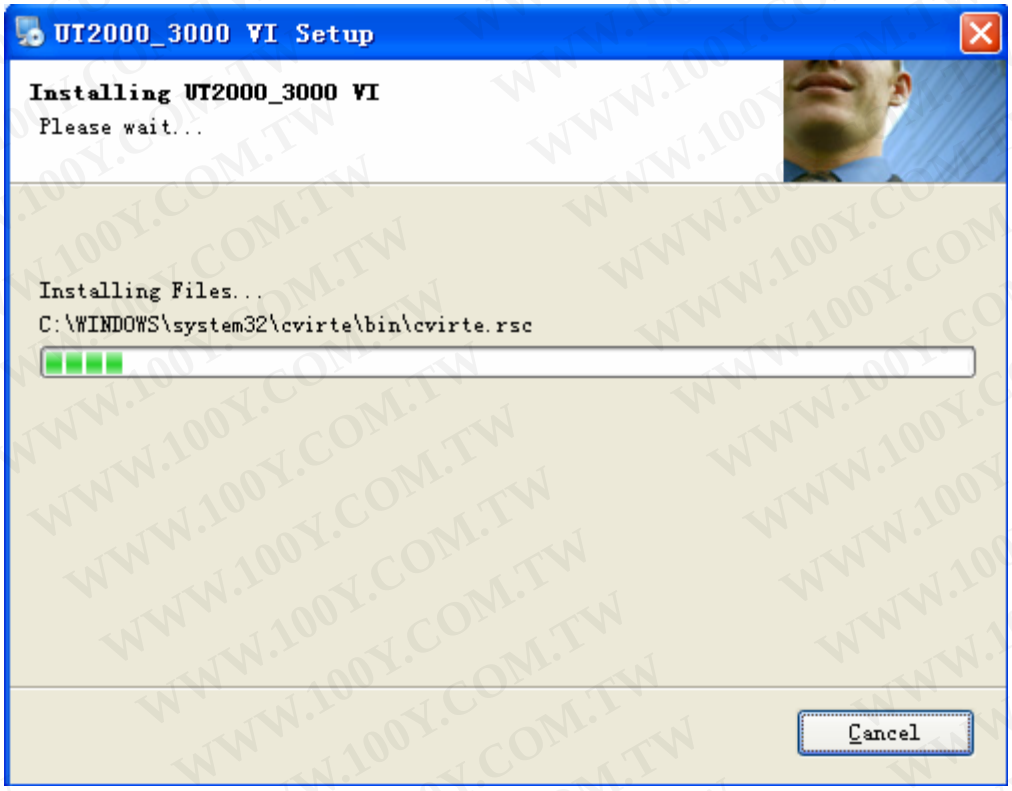
Step 6: Enter the installation path in the installation path field or click [Change ( )H…..] to select an alternative installation path. Then click [Next] once.


UT2000_3000 VI
Shortcut Selection
Where would you like the shortcuts to be installed?
The shortcut icons will be created in the folder indicated below. If you don't want to use the default folder, you can either type a new name, or select an existing folder from the list.
Shortcut Folder:
UT2000_3000 VI
Install shortcuts for current user only
Make shortcuts available to all users
< Back
Next >
Cancel

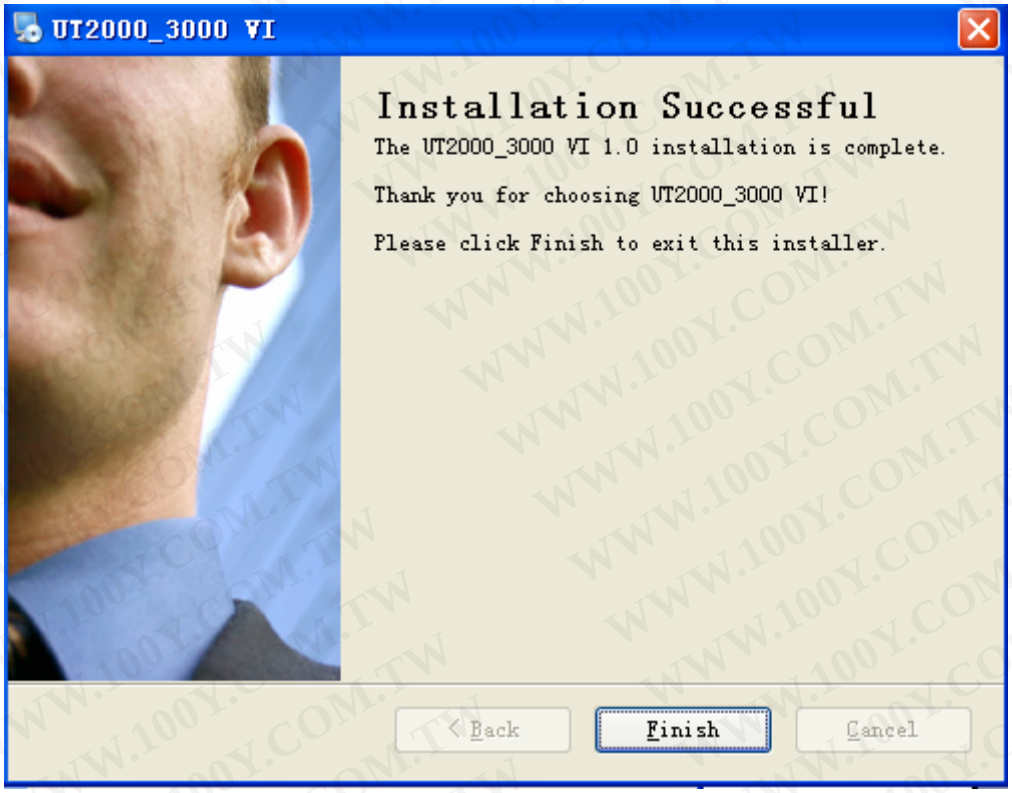
Step 7: Depending on your specific requirement, select [Quick installation for the current user only] or [Make quick installation applicable to all users], then click [Next] once.


UT2000_3000 VI
Ready to Install
You are now ready to install UT2000_3000 VI 1.0
The installer now has enough information to install UT2000_3000 VI on your computer.
The following settings will be used:
Install folder: C:\Program Files\UT2000_3000 VI
Shortcut folder: UT2000_3000 VI
Please click Next to proceed with the installation.
< Back
Next >
Cancel

Step 8: After confirming all information is correct, click [Next] once.



Step 9: The successful installation screen appears.



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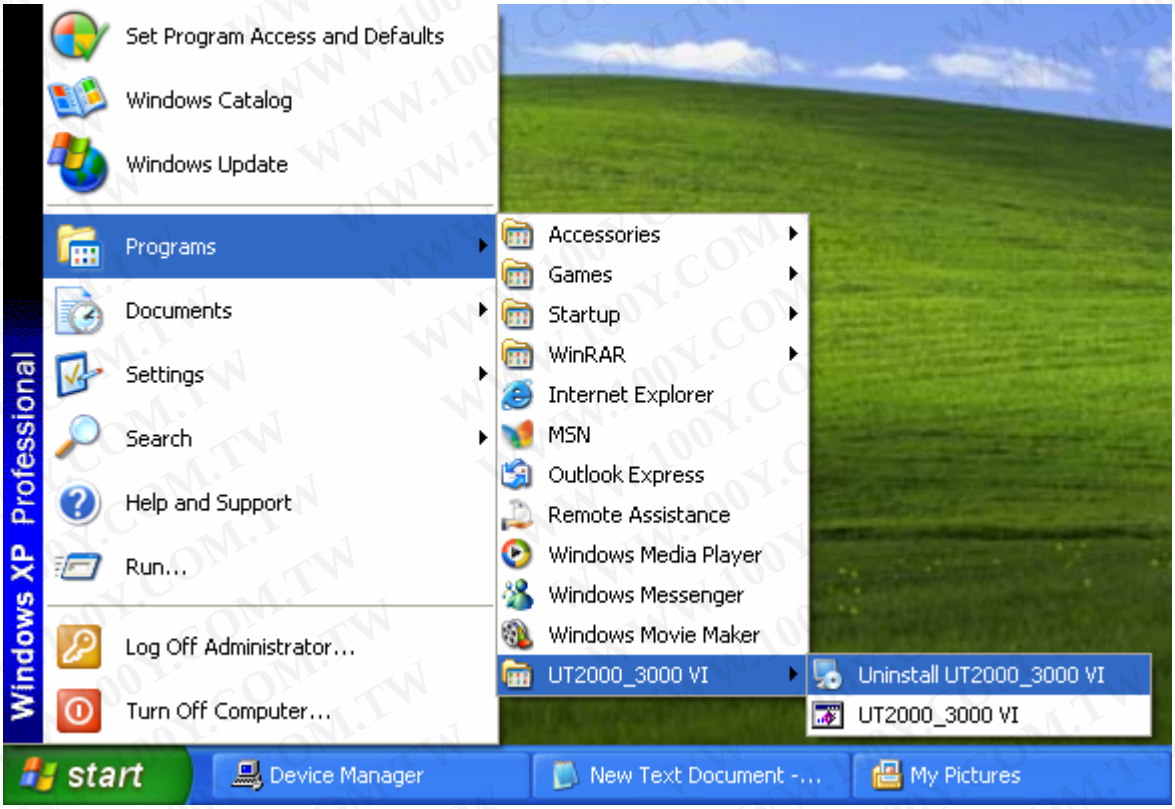
Step 10: When installation is complete as shown above, click [Finish (F)] once on the screen. The software has been installed in your host.
If you wish to change any setup, simply click [Back (B)] once during any stage of the wizard.
If you wish to stop the installation, click [Cancel] once during any stage of the wizard to quit.

3. Running the Software

There are two ways to find this software and run it on your computer.

1. After finishing installation, a shortcut icon _____ appears on your desktop. Double click this icon to run the computer testing & control software.

2. Alternatively find the software in All Programs (P) in the Start Menu. Select the computer testing & control software and run.



Chapter Four: System Prompts and Troubleshooting

System Prompts

Time out prompt: Check the serial configuration or check whether the equipment is properly connected.

Time out prompt: Check the USB configuration or check whether the equipment is properly connected.

SCAN prompt: SCAN will perform single transmission. Please carry out single refresh. Continue?

Are you sure you want to exit Virtual Instrument? A prompt will ask you if you wish to close the software.

Troubleshooting

1. If the system prompts you to check serial or USB configuration when you enter [Equipment ON/OFF], take the following steps:

① Check whether the oscilloscope power plug is properly connected.
② Check whether oscilloscope ports match the testing and control software setups (Factory default: RS-232 baud rate 4800).
③ Check whether the cable connection between module and PC is in order.
④ After carrying out the above checks, restart the software to continue operation.

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